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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/735,970	12/15/2003	Joseph Edward Fattori	IR 7485-00	3383
23909	7590	11/30/2007		
COLGATE-PALMOLIVE COMPANY			EXAMINER	
909 RIVER ROAD			KARLS, SHAY LYNN	
PISCATAWAY, NJ 08855			ART UNIT	PAPER NUMBER
			3723	
			MAIL DATE	DELIVERY MODE
			11/30/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary****Application No.**

10/735,970

**Applicant(s)**

FATTORI, JOSEPH EDWARD

**Examiner**

Shay L. Karls

**Art Unit**

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 26 October 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Continued Examination Under 37 CFR 1.114*

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/26/07 has been entered.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

**Claims 1-3, 6, 9, 12-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt (USPN 3029651) in view of Beny (USPN 5253382) and further in view of Halm (USPN 5813079).**

With regards to claims 1 and 19, Flatt teaches a drive system for imparting motion in a treating implement having a head (16) with treating instrument having implement elements (15). The

drive system comprising a motor (not labeled) with a rotatable motor shaft (5). There is a cam (6) driven around an axis of rotation by the motor shaft. The cam has an outer surface with a closed loop cam track (8). The treating implement head (13, 16, 15) is remote from the cam and a control member (23) is disposed between the cam and the treating implement head. The control member has a control slot (24) extending therethrough. There is a pivot member (20) located between the control member and the treating implement head. The pivot member has a through hole (22') also. The treating implement has a drive connection (11) mounted to the treating implement and disposed toward the pivot member. There is a drive shaft (10) having a longitudinal axis and a drive end (12) and driven end (11). The drive end and the driven end are coaxial along the longitudinal axis. The drive end is indirectly mounted in the cam by means of link (29) and the drive shaft extends through the control slot and the through hole in the pivot member. The driven end of the drive shaft is mounted to the drive connection of the implement head (figure 1). The longitudinal axis of the drive shaft is different from and at an angle to the cam axis of rotation (the applicant does not specify what the angle is and therefore the between the longitudinal axis and the cam axis is 180 degrees). The control slot controls the path of movement of the drive shaft whereby rotation of the cam causes the drive end to slide indirectly along the cam track in response to the location of the drive shaft in said control slot with the drive shaft pivotally moving through said pivot member as said drive end indirectly slides along said cam track while the drive shaft slidably moves in said control slot to transmit the pivotal movement of said drive shaft to said driven end and to said drive connection for moving said treating instrument.

With regards to claim 2, the control slot is a straight linear shape (figure 4).

With regards to claim 3, the cam track is circular (figure 5).

With regards to claim 6, the control slot extends radially from the axis of rotation (figure 4).

With regards to claim 9, the cam track does not extend beyond the axis of rotation (figure 5).

With regards to claim 12, the treating implement is a toothbrush, where the head is a cleaning head having an outer surface with cleaning elements (15) extending outwardly from the outer surface.

With regards to claim 13, the control slot is a straight linear shape parallel to the outer surface of the head. Flatt's control slot is set up in the same orientation with respect to the head as the applicant's control slot however, examiner believes it should read perpendicular rather than parallel.

With regards to claim 14, the cam track is circular (figure 5).

With regards to claim 15, the pivot member is a thin plate and the control member is a thin disk (figure 4 and figure 5).

With regards to claim 16, the control slot extends radially from the axis of rotation and the cam track does not extend beyond the axis of rotation (figure 4 and 5).

With regards to claim 17, the head is oscillated back and forth over a range of motion no greater than 30 degrees with respect to the axis of rotation as shown by the dashed lines in figure 1.

With regards to claim 18, the drive system is of straight linear shape, which is non-parallel to the outer surface of the head (figure 1). The dashed lines in figure 1 shows how the system is straight and non-parallel to the outer surface of the head.

Flatt teaches all the essential elements of the claimed invention however fails to teach that the closed loop cam track has an inner wall and an outer wall and that the drive end slides along the inner and outer wall of the cam track (claim 1 and 19). Flatt also fails to teach a treating implement head having a treating instrument that is separately moveable from the head (claim 1 and 19). Flatt fails to teach that the drive connection of the implement head causes the treating instrument to move, independent of the head (claim 1 and 19). Flatt additionally fails to teach that the treating instrument

is rotatably mounted to the head (claim 19) and that is moves in an oscillatory, rotational movement (claim 20).

Beny teaches a toothbrush comprising a cam track (38; figure 5) that comprise an inner wall (not labeled but best shown in figure 5 as reference number 50) and an outer wall (40) that forms a closed loop track (64). There is a cam follower (68) that comprises a drive end (66) for sliding along the inner and outer wall of the cam track (figure 11). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the cam track of Flatt so that is comprises an inner and outer wall as taught by Beny since both types of cam tracks are equivalent structures known in the art for transferring motion to a drive element. Further the claim would have been obvious because the substitution of one known element for another would have yielded the predictable result of imparting motion to a treating instrument to one of ordinary skill in the art at the time of the invention.

Halm teaches a toothbrush head (12) comprising a treating instrument (13) that is separately moveable from the head (figure 1E). The instrument oscillates and rotates about pivot point 26). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Flatt's treating implement head with a treating instrument that moves independently of the head at taught by Halm because it would accommodate itself better to the shape of the teeth. Additionally, it provides a much more gentle brushing action, reducing the likelihood of injury to the gums of the user (col, 1, lines 59-65). It would have been an obvious modification to one of skill in the art to replace the head of Flatt for the head of Halm by simply modifying the neck portion of Halm with a threaded end so that it could be attached to Flatt's invention.

**Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Lev et al. (USPN 6895625).**

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fail to teach that the cam track is non-circular such as oval. Beny and Lev teaches a cam track (114) that is oval shaped. A cam (106, 108) fit within the cam track and follow the path provided by the track. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the track of Flatt in view of Beny and Halm so that it is oval shaped as taught by Beny or Lev since the oval shaped track will allow for a broader range of movement and speed for the treating implement. Using an oval track will vary the linear reciprocating motion of the treating implement.

**Claims 7-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Stemme (USPN 3538530).**

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fail to teach that the control slot is non-straight or arcuate. Stemme teaches a toothbrush with a control member having an arcuate shaped control slot (figure 3 and 4). It would have been obvious to modify Flatt's control slot so that it was non-linear or arcuate as taught by Stemme since the arcuate shape leads to a figure eight motion. The figure eight motion will allow the bristles to move from one gum over the teeth towards the other gum, only to thereupon reverse their movement. This is the brushing motion that is preferred by dentist for properly cleaning teeth (col. 3, lines 60-71).

**Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Prineppi (PGPub 2003/0066145).**

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fails to teach that the driven end of the drive shaft comprises a ball joint. Flatt teaches that the driven end is attached to the head by a threaded connections (13, 14). Prineppi teaches a toothbrush with a drive shaft (14) having a ball joint (21) located on the driven end. The ball joint fits within a slot on the head. It would have been obvious to modify Flatt's driven end of the drive shaft to have a ball joint and to modify the head to have a slot as taught by Prineppi so that the driven end can be connected to the head quickly and securely. Additionally, by using a ball joint wear is minimized between the driven end of the drive shaft and a slot in the toothbrush head ([0026]).

**Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Flatt in view of Beny and Halm as applied to claim 1 above and further in view of Stoltz (USPN 4149291).**

Flatt in view of Beny and Halm teach all the essential elements of the claimed invention however fails to teach a flexible bearing located in the through hole of the pivot member. Flatt's pivot member comprises a plate with hole, which receives the drive shaft. The drive shaft is secured within the hole by means of a pin. Stoltz teaches a vibrating toothbrush head with a pivot member comprising a flexible bearing (5). It would have been obvious to one of ordinary skill in the art to modify Flatt's pivot member with flexible bearing in the opening as taught by Stoltz so that all the axial forces from the drive shaft are picked up so that the cam is not axially loaded (col. 2, lines 22-23). Additionally, the bearing help to lock the drive shaft in place so that it cannot turn axially when in use (col. 2, lines 24-26). Lastly the bearing will act as a gasket and prevent liquids from entering the handle portion.



***Response to Arguments***

Applicant's arguments filed 11/26/07 have been fully considered but they are not persuasive. The applicant amended the claims to include the limitation that the drive shaft has a longitudinal axis, a drive end and a driven end. Further, the claim states that the drive end and the driven end are coaxial along the longitudinal axis and that the drive end is mounted in the cam track. As stated above, the drive shaft (10) has a driven end (11) and a drive end (12). The drive end and driven end are coaxially aligned along the longitudinal axis of the drive shaft (figure 3). The drive end of the shaft is indirectly mounted in the cam track by means of a connecting link (29). The claim does not state that the drive end is directly mounted within the cam and therefore, Platt still reads on the claimed limitations. Also, the applicant states that the longitudinal axis of the drive shaft and the rotational axis of the cam are at an angle with respect to each other. However since there is no specifics as to what the angle is, it is clear that since the longitudinal axis and the rotation axis are at an angle of 180 degrees with respect to each other, this clearly reads on the claimed limitations. For the above reasons, the rejections are being maintained.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Shay L. Karls whose telephone number is 571-272-1268. The examiner can normally be reached on 7:00-4:30 M-Th, alternating F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 571-272-4485. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Shay L Karls/  
Primary Examiner, Art Unit 3723